Remarks

The April 27, 2004 Advisory Action has been carefully reviewed. In view of the following remarks, favorable reconsideration and allowance of this application are respectfully requested.

In the Advisory Action, the Examiner has indicated that that response to the December 2, 2003 Official Action has overcome all of the rejections to claims 6, 8, and 12. However, the Examiner has maintained the rejection of claim 13 for allegedly failing to satisfy the written description and enablement requirements under 35 U.S.C. §112, first paragraph.

The foregoing rejections constitute all of the grounds set forth in the April 27, 2004 Advisory Action for refusing the present application.

In accordance with this amendment, Applicants have cancelled withdrawn claims 1-5, 7, and 9-11, which are allegedly drawn to unrelated and distinct inventions.

CLAIM 13 SATISFIES THE REQUIREMENTS OF 35 U.S.C. §112, FIRST PARAGRAPH

The Examiner has maintained the rejection of claim 13 for allegedly failing to satisfy the written description and enablement requirements under 35 U.S.C. §112, first paragraph. Specifically, it is the Examiner's position that "the issue of active immunization was not addressed" in the April 1, 2004 response to the December 2, 2003 Official Action.

Applicants disagree with the Examiner. Applicants respectfully point out that the term "active immunization" is a well-established term in the field of immunology. As defined in the Illustrated Dictionary of Immunology (Cruse and Lewis (1995) CRC Press, New York, page 5), active immunization is:

> The induction of an immune response either through exposure to a infectious agent or by deliberate immunization with products of the microorganism inducing

> the disease to develop protective immunity. ... Booster immunization injections given at intervals after primary exposure **may** lead to long-lasting immunity through the activation of immunological memory cells. [Emphasis added.]

Thus, active immunization can simply be the generation of an immune response (e.g., the generation of specific antibodies) to an antigen presented to a host. Long-lasting immunity, however, is not a prerequisite for active immunization, although it can be obtained by the administration of booster shots. This type of immunization is in stark contrast to passive immunization, which is defined in the Illustrated Dictionary of Immunology (page 229) as:

> The transfer of a specific antibody ... from an immune to a previously nonimmune recipient host. Unlike active immunity which **may** be of a relatively long duration, passive immunity is relatively brief... [Emphasis added.]

Therefore, the defining difference between passive immunization and active immunization is **not** the duration of the immunity, but rather the method by which the immunization is achieved. Indeed, passive immunization results from the transfer of antibodies from an exogenous source to a host while the antibodies which confer immunity in an active immunization are generated by the host.

In the instant application, claim 13 is drawn to a method for actively immunizing a patient against a microbial infection. The method comprises, briefly, the steps of a) generating a vaccine by combining a CRAA comprising an immunogenic microbial epitope with an adjuvant; b) administering the vaccine to a patient; c) administering at least one booster injection; and d) assessing said patient's sera for the presence of catalytic antibodies against the microbial epitope.

In the April 27, 2004 Advisory Action, the Examiner withdraws all rejections of claims 6, 8, and 12 in view of

Applicants' arguments and Paul et al. (J. Biol. Chem. (2003) 278:20429-20435), but not to claim 13 because "active immunization was not addressed." Applicants respectfully submit, however, that Paul et al. does demonstrate active immunization of a host with a CRAA. At page 20431, Paul et al. teach the immunization of mice with a CRAA, comprising an epitope of gp120 of HIV, in Ribi adjuvant. The mice were given booster shots and blood was obtained from the mice. Figure 2B demonstrates the presence of antibodies which specifically bind to HIV gp120 in the serum of mice that were immunized with the CRAA, but not nonimmunized mice. Applicants submit that this result alone demonstrates the ability of the instantly claimed CRAA to actively immunize a host because it demonstrates "induction of an immune response ... by deliberate immunization with products of the microorganism inducing the disease." Applicants also submit, however, that Paul et al. demonstrate at Fig. 4 that monoclonal antibodies obtained from splenocytes of the immunized mice are capable of catalytically cleaving biotinylated gp120. The ability to obtain splenocytes from the immunized mouse which generate catalytic antibodies is an indicator that the sera from the immunized mice also contains catalytic antibodies to the antigen. Accordingly, step d) of claim 13 is taught by Paul et al.

Inasmuch as active immunization was demonstarted by Paul et al., Applicants respectfully request that the rejections of claim 13 under 35 U.S.C. §112, first paragraph be withdrawn.

CONCLUSION

In view of the foregoing remarks and cancellation of withdrawn claims, it is respectfully urged that the rejections set forth in the April 27, 2004 Advisory Action be withdrawn and that this application be passed to issue.

It is respectfully requested that the foregoing remarks and amendments presented herewith be entered in this

application, since it is believed they clearly place the pending claims in condition for allowance.

In the event the Examiner is not persuaded as to the allowability of any claim, and it appears that any outstanding issues may be resolved through a telephone interview, the Examiner is requested to telephone the undersigned attorney at the phone number give below.

Respectfully submitted,
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Enclosure: Illustrated Dictionary of Immunology, Cruse and Lewis (1995) CRC Press, New York, pages 5 and 229